OregonAsthmaNetwork

Sponsors of the Oregon Chronic Disease Data Clearinghouse And Tracking System Pilots

Using Data to Improve Chronic Care: Building Capacity and Connectivity in Oregon

Chronic Disease Data Clearinghouse Pilot Project

Project Summary and Recommendations

September 2005

Chronic Disease Data Clearinghouse Steering Committee

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Project Summary

Oregon's health plans and several clinic pioneers have completed a ground-breaking, collaborative pilot of a Chronic Disease Data Clearinghouse. Under the leadership of the Oregon Health Care Quality Corporation (Quality Corp), Oregon Asthma Network and Oregon Diabetes Coalition, the Clearinghouse merged claims data from eleven health plans in an attempt to provide better tools to help clinicians manage diabetes and asthma care. The work is directed by a Steering Committee jointly appointed by the three sponsoring organizations.

Background: For well over a decade, many health plans have provided clinicians with claims-based reports in an attempt to assist them with chronic disease management. For most physician practices, however, these reports have limited utility. A report from a single health plan represents only a fraction of the patients in that clinic. Reports from multiple plans in variable formats and frequencies cannot be easily aggregated into meaningful outcomes measures or incorporated into the practice operations.

This project explored the possibility that physician practices would be better served by a single report that provide useful information on all their patients with a particular condition at once. Such consolidated reporting requires the cooperation of multiple health plans so that their data sets can be merged together by an impartial healthcare data clearinghouse to improve the information available to clinicians.

Pilot Purpose: The purpose of the pilot was to determine if claims-based asthma and diabetes reports to clinicians, which some plans currently provide independently, could be produced collectively to meet needs expressed by physician practices. Specifically, the proof-of-concept pilot would determine if the political, legal and technical challenges to producing the joint reports could be surmounted. Furthermore, the pilot would determine whether these merged reports resulted in products that would be more useful to clinicians than reports provided individually by health plans.

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Pilot Methods: A neutral clearinghouse vendor (OMPRO) executed legal agreements with health plans to act as a business associate and receive the claims data. A neutral behavioral

research vendor (Riley Associates) interviewed clinicians and clinic staff to obtain guidance in designing the merged reports. Multiple rounds of data and feedback from a small group of clinics were used to improve the project algorithms, programming and understanding the data. Clinics were interviewed again to obtain their assessment of the merged reports. A neutral external evaluator (Witter& Associates) monitored the process and assured robust assessment of results.

The Oregon Department of Human Services, OMPRO, Riley Research Associates and Oregon Health Care Quality Corporation provided staffing and substantial support in order to assist the health plans in taking this important step toward collaborative improvement of chronic disease. Participating health plans and participating physician practices contributed substantial time and effort in submitting health plan data and working with the patient lists and reports. Direct financial support for the Clearinghouse project was provided by the Diabetes and Asthma Programs of the Oregon Department of Human Services, AstraZeneca, GlaxoSmithKline, and Regence BlueCross BlueShield. Funding for evaluation was provided by the Northwest Health Foundation.

Statistical Highlights

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- The twelve participating health plans collectively submitted data on over 600,000 patients to the Clearinghouse with over 23 million medical encounter and pharmacy claim records.
- The twelve participating health plans cover about 50% of Oregon's population.
- Data from eleven health plans were successfully merged in the Clearinghouse for use in developing reports for physician practices.
- Over 150,000 patients met tight criteria for inclusion in the Chronic Disease Data Clearinghouse reports; 62,634 asthma patients and 88,248 diabetes patients.
- Approximately 16% of asthma and 14% of diabetes patients had claims from multiple health plans. A large number of the multiple plan coverage situations involve only the commercial insurance-based health plans. A larger proportion involves the Oregon Health Plan (OHP) capitated health plans and/or the OHP fee-for-service plans.
- The five physician practices involved in testing the pilot results had patients from six to nine different health plans that were merged into consolidated reports.
- On a ten-point rating scale clinicians and practice managers rated the value of the merged, single source and format reports from the Clearinghouse as 8.4 (highly favorable) compared to 1.4 (highly unfavorable) for the traditional approach with multiple report sources and formats. Support for consolidated reports is critically dependent on timely and accurate data reporting.

Results

This pilot has accomplished the following results and identified issues that would need to be addressed for an ongoing Chronic Disease Data Clearinghouse:

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Project Rationale: The project confirmed the need for a collaborative approach across health plans to improve the availability of useful information about patients with diabetes and asthma. One in seven patients had claims in multiple health plans' files. Individual physician's reports contained data from six to nine different plans.

Physician Interest: Physician and clinic staff interviews at both the beginning and end of the project confirmed interest in consolidated reporting of health plan information as proposed for the Clearinghouse and identified clinician preferences for report content and formatting. Although the audience for the reports was originally conceived as individual physicians, a high level of interest from medical directors and quality managers of IPAs and large groups should be incorporated in future efforts. Physician practices with a strong quality improvement champion were able to effectively participate and organize their clinic participation.

Stakeholder Collaboration: The political challenges of organizing health plans to work together in order to better serve clinicians with claims-based reports were addressed through a series of forum discussions with medical directors, quality improvement staff analysts and legal experts. Far exceeding expectations, leaders from more than a dozen health plans serving commercial, Medicaid and Medicare constructively participated in developing the conceptual framework for the Clearinghouse and key operating policies.

Confidentiality and Privacy: The legal hurdles of complying with HIPAA regulations that protect patient confidentiality and privacy were satisfactorily addressed through data sharing agreements between participating health plans and OMPRO, the Clearinghouse vendor. Plans signed data sharing agreements with OMPRO, allowing OMPRO to serve as the plans' agent and business associate. A two-step process in which physicians proactively confirmed responsibility for a patient before receiving data made agreements between OMPRO and physician practices unnecessary. Changes to streamline future processes will likely require data sharing agreements with participating health plans, participating physician practices, and organizations representing groups of physicians such as IPAs.

Clearinghouse Operations: The technical challenges in collecting, managing and utilizing the claims data from multiple health plans proved to be the greatest challenge.

The Clearinghouse succeeded in producing the reports responsive to physician needs as envisioned in the pilot environment. Some of technical processes will work well on a larger scale and others remain significant issues. The major technical component results and issues for the future are:

Technical Components	**Results and Future Issues**
Health plan generation of data files	A significant effort was required of health plans to program the file extractions, including a feedback loop between the Clearinghouse and plan analysts. Initial data submissions were spread over nearly six months. Second submissions were substantially more timely with data received within two weeks of due date. An ongoing process could work effectively, perhaps on a quarterly basis.
Standardizing health plan claims data for use in the Clearinghouse	Loose data specifications, varied data content and coding, and variable compliance to the specifications created substantial work for the Clearinghouse and some plans. Improved data specifications and standard processing procedures could make the processing more efficient and sustainable.
Identifying asthma and diabetes patients of interest	The specificity of algorithms for identifying patients worked well after some initial programming problems. Test practices confirmed a high level of accuracy of identified patients. Sensitivity remains a concern of unknown magnitude: a number of clinic's known patients with asthma and diabetes were missing from the reports.
Merging the data from multiple plans for identified patients	Data files from 11 plans were successfully merged in the pilot. The process seems scalable for ongoing operations with opportunities to streamline the processes. However, plans use vastly different data structures for identifying providers and clinics. Considerable work will be required in order to expand the pilot using consistent provider-clinic coding standards.
Determining the primary care physician and/or practice group or clinic	Though reports were satisfactorily produced for all four test clinics, imputation of a primary provider (physician or practice group) except in managed care plans remains a significant challenge. In some practices significant numbers of patients could not be assigned to the correct physician because billing procedures reflect clinic structures that differ from the actual provider of care. In other cases, patients could not even be imputed to an appropriate clinic because provider codes are not always provided and/or captured in the claims data. This problem will require substantial additional effort by both those that submit and those that pay claims in order to get patient information to those that can use it to improve care. Replacing the goal of identifying a single "primary provider" with identifying all "opportunity providers" may make data management easier and increase avenues for improving patient outcomes

Technical Components	Results and Future Issues
Confirming the assignment of patients to primary care physicians and/or practice groups	For the pilot, an affirmative validation process was used to check the assignment of patients to specific primary care physicians or practices prior to providing reports. This is not a necessary or sustainable process for an ongoing Clearinghouse. Interactive tools could provide a replacement solution for assigning and reassigning patients to specific physicians and/or practices.
Report content	Four reports for each disease were developed using available claims data, including visits, hospitalizations, medications and labs. Well-designed reports with varying levels of detail were satisfactorily produced: (a) alphabetical patient lists with summary information, (b) patients alert list for possible action, (c) individual patient summaries for the charts and (d) over-all practice summaries comparing the clinician to others in the clinic and to all pilot providers. Data were accurate, though not timely, in this pilot environment. Pharmacy data provided high utility to clinicians, most notably a ratio of long-acting to short-acting asthma medications. Data fields for occurrence of a follow-up visit after emergency and hospitalization were lowest utility. Clinicians also have a high interest in data that is not currently available in claims, particularly lab results. Patient summaries focused on condition specific information as planned, but could be expanded to provide additional available information.
Report generation process	For the pilot, reports were generated after confirmation of patient lists by physician practices. Report generation required considerable Clearinghouse staff support. These processes will need to be streamlined for an ongoing Clearinghouse. Interactive tools could provide a replacement solution for generating reports by physician practices as well as creating interfaces to practice electronic record systems and registries.
Technical infrastructure to support the Clearinghouse	As a result of the overwhelming success in obtaining health plan cooperation, the magnitude of the data files and processing complexities significantly challenged the scale of the available hardware and software. An ongoing Clearinghouse will require an appropriately scaled technology infrastructure to manage the data on an ongoing basis.

Physician Practice Response: The follow-up survey of physician practices by Riley Research Associates of the small group of participating clinics indicated the merged reports are dramatically more useful than reports supplied separately by multiple health plans. On a ten-point scale on the overall value of reports, median scores for the traditional approach with multiple reports and formats was 1.4 (highly unfavorable, clinicians often toss them out) compared to 8.5 (highly favorable) for merged reports, **provided that the reports are timely and accurate.**

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Practices noted the potential for increased efficiency by saving time for doctors and their staff, and for increased quality by providing patients with more proactive treatment. Physicians found the pharmacy data particularly helpful because this is the only source of information about what drugs their patients are actually obtaining. Clinicians and practice managers indicated a strong interest in the aggregate statistical report comparing their performance to other practices.

Unfortunately, the limited scope for testing the reports could not assess the level of interest from a sufficiently broad-base of physician practices to draw conclusions regarding utility of the reports in relation to the cost to produce them.

Project Financing and Management: The pilot was conducted without adequate up-front financing for the Clearinghouse function and project management. Substantial contributions from Oregon Department of Human Services and OMPRO made it possible to finish the pilot, though with fewer clinics than originally envisioned, long delays and high staff turn-over. These were nearly fatal to the project and seriously tested the good-will of plan and clinic partners. Future Clearinghouse or other similar initiatives should better recognize the scope of planned effort and be adequately funded prior to commencing any work.

Asthma and Diabetes Care in Oregon: The pilot analysis has been sufficient to gain insight into many of the Clearinghouse operational issues but has not addressed public health, health policy and academic research issues. Data gathered in the Clearinghouse pilot represents a unique and invaluable resource that could be used to better understand asthma and diabetes in Oregon. The Clearinghouse pilot project plan included producing a HIPAA-compliant analytical file for non-commercial policy and research purposes that would be governed under strict policies that are still under development.

Discussion

The Chronic Disease Data Clearinghouse proof-of-concept pilot has been highly successful. Significant political, legal and technical hurdles were addressed, demonstrating the feasibility of the Clearinghouse concept and Oregon's widely acknowledged commitment to collaborative problem-solving. The Clearinghouse sponsors and Steering Committee applauds and thanks the health plans, clinics and organizations that made the pilot successful with so few resources.

> **In an environment that increasingly encourages quality transparency … the Clearinghouse model offers an important constructive approach to quality improvement based on collaboration between health plans and physicians.**

The Chronic Disease Data Clearinghouse Steering Committee has scanned the evolving environment and envisions a future when a fully functioning regional health information organization (RHIO) will facilitate the real-time exchange of claims and clinical data, interacting appropriately with provider electronic health record systems. The Committee also envisions that an ongoing operational Chronic Disease Data Clearinghouse (or Chronic Disease Data Exchange) that supports clinicians with robust chronic disease tracking systems and reporting tools would be a positive intermediate step toward a RHIO. The Committee has identified the next logical steps for building the Clearinghouse with pooled claims data and confident that the Clearinghouse will accelerate Oregon's progress toward these longer-range visions.

In its environmental scan the Chronic Disease Data Clearinghouse Steering Committee also notes a rapidly evolving interest in differentiating providers based on quality and value. The emerging programs that report, acknowledge and/or reimburse superior performance are often based on quality indicators identical to those provided through the Chronic Disease Data Clearinghouse. In an environment that increasingly encourages quality transparency and that is moving toward outcomes-based reimbursement to providers, the Clearinghouse model offers an important constructive approach to quality improvement based on collaboration between health plans and physicians. Plans and providers need a common means to define accountability and produce trusted data. The Chronic Disease Data Clearinghouse offers that opportunity. Several relevant and distinguishing features of the Clearinghouse pilot project concept should be noted:

- Health plans work together to pool data for producing consolidated reports that are useful to clinicians
- Both patient-level and practice summary tools are available to help clinicians improve the quality of care
- Unlike many pay-for-value efforts, the Clearinghouse improvement reports provide data on all patients in a practice with current eligibility, not just those with stable eligibility

- Processes and procedures are mutually developed by plans and providers and open to examination, and
- Feedback procedures provide clinicians an opportunity to improve the accuracy of the reports.

The Chronic Disease Data Clearinghouse Steering Committee is particularly eager to see this pilot effort support the evolution toward disease management registries with historical data, rather than one or two year "snap shots" of data. Although many questions would have to be resolved regarding responsibility and financing for such registries, the potential for proactively managing all patients with asthma, diabetes and other chronic diseases is dramatic.

Assigning responsibility for a patient's care ... is a challenging barrier... A conceptual change from identifying the "single primary care provider" to identifying the "community team of providers who have an opportunity to improve a patient's care" could help.

Because this proof-of-concept pilot has succeeded, the most critical question for the Steering Committee is determining if the expense of taking the pilot to an operational level is warranted. Assigning responsibility for a patient's care to a particular provider is the single most challenging barrier that must be resolved to answer this question. Two strategies for improvement are particularly promising. First, giving clinicians an opportunity to interact with the data lists before running reports will help them identify the sources for the inaccuracy and an avenue for fixing it. Claims filing includes numerous "work-arounds" that can likely be eliminated by clinics if identified and given a reason to do so. Second, a conceptual change from identifying the "single primary care provider" to identifying the "community team of providers who have an opportunity to improve a patient's care" could help. Under this model, reports of a patients' care would be sent to multiple "opportunity providers" who interact with patients.

The proof-of-concept pilot demonstrated that claims-based asthma and diabetes reports can be produced collectively to meet needs expressed by some physician practices in order to help them care for patients with chronic disease. The Steering Committee determined that a larger pilot, incorporating the lessons learned, involving more clinics, and assessing financial costs would be a desirable next step. However, the Committee also found that financing for this next pilot would not be easy to obtain unless combined with other significant initiatives, particularly common measures for value-based purchasing and regional health information exchange. Fostering data exchange for populations with chronic disease has been demonstrated to be possible because of the tremendous cooperation among plans and providers. Building on this cooperation to take data exchange to the next level is vitally important to providing appropriate, high quality care to people with chronic conditions.

Recommendations

The project demonstrates, above all else, that no single entity has all the data that is needed to manage a patient's care. People with chronic diseases are cared for by multiple clinicians, all of whom need a full picture of the care that is provided. Getting useful, comprehensive data about patients into the hands of care providers is essential for quality care.

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The project also identified fundamental source-data problems that must be fixed for any future sharing of health care data. Without better ability to tie services to the appropriate clinician and appropriate patient, information exchange will not succeed.

Therefore, in order to improve the quality of care provided to Oregonians with chronic disease, the Chronic Disease Data Clearinghouse Steering Committee recommends the following based on the pilot experience:

1. Oregon's health care stakeholders should expand and finance the partnership to jointly address the challenges of developing community-wide, data-sharing systems.

2. The Oregon Health Care Quality Corporation, health plans and clinicians should make the Chronic Disease Data Clearinghouse pilot a conceptual stepping stone in Oregon's emerging transparency and quality-based purchasing effort. The reports produced by the Clearinghouse are demonstrably meaningful and useful to clinicians. In addition, numerous important insights regarding political, legal and technical issues have been identified that can prevent mistakes if incorporated in future efforts.

3. The Oregon health care partners developing Oregon's regional health information infrastructure for interoperable electronic health records should give high priority to facilitating the dynamic exchange of claims and clinical information for tracking chronic disease at both the patient and population level. No single model of disease-management registries will meet the needs of all of Oregon's community of providers. A robust and flexible approach to architecture is needed to provide a variety of tools to support clinicians and their patients who have chronic diseases.

4. Providers and plans should participate in a shared effort to review their billing and operational systems to identify and eliminate the barriers to filing accurate claims. Claims data, particularly for pharmacy, can be clinically useful and may be the only source of clinical information for many patients and clinicians for the foreseeable future. Correct and consistent provider identification as complete diagnoses coding, are essential to using these data for care improvement.

5. The Clearinghouse partners should identify funds to fully analyze the de-identified data collected for the pilot. This information, which covers half of Oregon's population with diabetes and asthma, is a rich resource for assessing how well Oregon's needs are being met, potentially targeting areas for improvement and further exploring source-data problems. A governance agreement for file management should assure appropriate use and security.

6. The Clearinghouse partners should seek funding to continue the evolution and expansion of pilots that support data-sharing among plans and providers. The pilots should incorporate the identified modifications, and carefully assess costs and benefits of making the system fully operational. The pilot sponsors must secure sufficient funding to assure that the expanded pilot is conducted rapidly and efficiently in order to avoid the continuity problems encountered with this pilot.

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Recommendations to healthcare stakeholders:

Expand and fund a community-wide data sharing partnership

Incorporate the pilot's technical findings in planning programs for common measures for transparency and value purchasing

Develop multiple approaches to dynamic chronic disease tracking systems through the emerging regional health information infrastructure

Improve the quality of claims data, particularly the accuracy of assigning the responsible provider

Fully analyze the pilot data to understand how asthma and diabetes care is provided in Oregon

Conduct additional pilots to expand data sharing collaboration among health plans and providers